

## Ngineering

Database computic report document wallete data training trainer record , office

„ supplier enginnering work electrical undertake information

Inbox



**tshingombe fiston**  
<tshingombefiston@gmail.com>

11:57 AM (17 minutes  
ago)

to tshigombekb, me, tshingombe, tahitaditshingombe,  
TSHINGOMBEKB

VERSION 5.00

Begin {C62A69F0-16DC-11CE-9E98-00AA00574A4F} UserForm1

```
Caption          = "UserForm1"
ClientHeight     = 8085
ClientLeft       = 45
ClientTop        = 375
ClientWidth      = 16815
OleObjectBlob    = "UserForm document office.frx":0000
StartupPosition  = 3 'Windows Default
WhatsThisButton  = -1 'True
WhatsThisHelp    = -1 'True
```

End

```
Attribute VB_Name = "UserForm1"
Attribute VB_GlobalNameSpace = False
Attribute VB_Creatable = False
Attribute VB_PredeclaredId = True
Attribute VB_Exposed = False
Private Sub ComboBox1_Change()
```

End Sub

```
Private Sub CommandButton1_Click()
```

End Sub

```
Private Sub CommandButton2_Click()
```

End Sub

```
Private Sub Frame1_Click()
```

End Sub

```
Private Sub UserForm_Click()
```

End Sub

```
Private Sub UserForm_DblClick(ByVal Cancel As MSForms.ReturnBoolean)
```

End Sub

```

Private Sub UserForm_Error(ByVal Number As Integer, ByVal Description As
MSForms.ReturnString, ByVal SCode As Long, ByVal Source As String, ByVal HelpFile As
String, ByVal HelpContext As Long, ByVal CancelDisplay As MSForms.ReturnBoolean)

End Sub

Private Sub UserForm_KeyUp(ByVal KeyCode As MSForms.ReturnInteger, ByVal Shift As
Integer)

End Sub

Private Sub UserForm_MouseUp(ByVal Button As Integer, ByVal Shift As Integer, ByVal X
As Single, ByVal Y As Single)

End Sub

Private Sub UserForm_RemoveControl(ByVal Control As MSForms.Control)

End Sub

Private Sub UserForm_Resize()

End Sub

Private Sub UserForm_Scroll(ByVal ActionX As MSForms.fmScrollAction, ByVal ActionY As
MSForms.fmScrollAction, ByVal RequestDx As Single, ByVal RequestDy As Single, ByVal
ActualDx As MSForms.ReturnSingle, ByVal ActualDy As MSForms.ReturnSingle)

End Sub

Private Sub UserForm_Terminate()

End Sub

Private Sub UserForm_Zoom(Percent As Integer)
Private Sub cmd_bgColor_Click()
    Dim r, g, b As Integer
    r = Int(Rnd() * 256)
    g = Int(Rnd() * 256)
    b = Int(Rnd() * 256)
    MyForm.BackColor = RGB(r, g, b)
End Sub

Private Sub Cmd_fgColor_Click()
    Dim r, g, b As Integer
    r = Int(Rnd() * 256)
    g = Int(Rnd() * 256)
    b = Int(Rnd() * 256)
    Lbl_Msg.ForeColor = RGB(r, g, b)

End Sub

```



Mail

Delivery 11:58 AM (17 minutes

Subsyste ago)

m

Address not found Your message wasn't delivered to tshigombekb@gmail.com because the address



m

t

}Üsu7Root Entryÿÿÿÿÿÿ[1]ðï\*ÆÜÎ ž~ªWJO`Ø-e'ïÙ €

8H

€

€ÿÿ

}ÿ\*úFrame1

Rã  
' î ãªK,Q DB Tahoma

fo(ã €[1]TComboBox1\$\$,ã  
€

D CommandButton1{[1] ,ã  
€

H[1] CommandButton2{[1]¶ €#

Frame1â  
qþÿ

ÿÿÿÿði\*ÆÜÎ ž~ªWJOMicrosoft Forms 2.0 FormEmbedded Object  
Forms.Form.1ô9²q

On Mon, Sep 25, 2023 at 11:57 AM tshingombe fiston <[tshingombefiston@gmail.com](mailto:tshingombefiston@gmail.com)> wrote:  
VERSION 5.00

```
Begin {C62A69F0-16DC-11CE-9E98-00AA00574A4F} UserForm1
  Caption       = "UserForm1"
  ClientHeight  = 8085
  ClientLeft    = 45
  ClientTop     = 375
  ClientWidth   = 16815
  OleObjectBlob = "UserForm document office.frx":0000
  StartUpPosition = 3 'Windows Default
  WhatsThisButton = -1 'True
  WhatsThisHelp  = -1 'True
```

End

```
Attribute VB_Name = "UserForm1"
Attribute VB_GlobalNameSpace = False
Attribute VB_Creatable = False
Attribute VB_PredeclaredId = True
Attribute VB_Exposed = False
Private Sub ComboBox1_Change()
```

End Sub

```
Private Sub CommandButton1_Click()
```

End Sub

```
Private Sub CommandButton2_Click()
```

End Sub

```

Private Sub Frame1_Click()

End Sub

Private Sub UserForm_Click()

End Sub

Private Sub UserForm_DblClick(ByVal Cancel As MSForms.ReturnBoolean)

End Sub

Private Sub UserForm_Error(ByVal Number As Integer, ByVal Description As
MSForms.ReturnString, ByVal SCode As Long, ByVal Source As String, ByVal HelpFile As
String, ByVal HelpContext As Long, ByVal CancelDisplay As MSForms.ReturnBoolean)

End Sub

Private Sub UserForm_KeyUp(ByVal KeyCode As MSForms.ReturnInteger, ByVal Shift As
Integer)

End Sub

Private Sub UserForm_MouseUp(ByVal Button As Integer, ByVal Shift As Integer, ByVal X
As Single, ByVal Y As Single)

End Sub

Private Sub UserForm_RemoveControl(ByVal Control As MSForms.Control)

End Sub

Private Sub UserForm_Resize()

End Sub

Private Sub UserForm_Scroll(ByVal ActionX As MSForms.fmScrollAction, ByVal ActionY As
MSForms.fmScrollAction, ByVal RequestDx As Single, ByVal RequestDy As Single, ByVal
ActualDx As MSForms.ReturnSingle, ByVal ActualDy As MSForms.ReturnSingle)

End Sub

Private Sub UserForm_Terminate()

End Sub

Private Sub UserForm_Zoom(Percent As Integer)
Private Sub cmd_bgColor_Click()
    Dim r, g, b As Integer
    r = Int(Rnd() * 256)
    g = Int(Rnd() * 256)
    b = Int(Rnd() * 256)
    MyForm.BackColor = RGB(r, g, b)
End Sub

Private Sub Cmd_fgColor_Click()
    Dim r, g, b As Integer
    r = Int(Rnd() * 256)
    g = Int(Rnd() * 256)
    b = Int(Rnd() * 256)
    Lbl_Msg.ForeColor = RGB(r, g, b)

```

End Sub

...

[Message clipped] [View entire message](#)



**Mail Delivery  
Subsystem**

11:58 AM (16 minutes  
ago)

to  
me

**Address not found**

Your message wasn't delivered to **tshigombekb@gmail.com** because the address couldn't be found, or is unable to receive mail.

**[LEARN MORE](#)**

The response from the remote server was:

550 5.1.1 The email account that you tried to reach does not exist. Please try double-checking the recipient's email address for typos or unnecessary spaces. Learn more at <https://support.google.com/mail/?p=NoSuchUser> z20-20020a05651c023400b002bff9e2388bsi3433874ljn.512 - smtp



Mail  
Delivery 11:58 AM (16 minutes  
Subsystem ago)  
m

Address not found Your message wasn't delivered to **tahitaditshingombe@gmail.com** because the address couldn't be found, or is unable to receive mail. **[LEARN MORE](#)**



**tshingombe fiston**  
**<tshingombefiston@gmail.com>**

12:01 PM (13 minutes  
ago)

to **tshigombekb**, **tshingombe**, **tahitaditshingombe**,  
**TSHINGOMBEKB**, me

VERSION 5.00

Begin {C62A69F0-16DC-11CE-9E98-00AA00574A4F} UserForm2

```
Caption      = "UserForm2"
ClientHeight = 8040
ClientLeft   = 45
ClientTop    = 375
ClientWidth  = 16845
OLEObjectBlob = "UserForm2 document wallet.frx":0000
StartupPosition = 1 'CenterOwner
WhatsThisButton = -1 'True
WhatsThisHelp = -1 'True
```

End

```
Attribute VB_Name = "UserForm2"
```

```
Attribute VB_GlobalNameSpace = False
```

Attribute VB\_Creatable = False

```
Attribute VB_PredeclaredId = True
```

Attribute VB\_Exposed = False

```
Private Sub UserForm_Click()
```

End Sub

```
Private Sub Form Activate()
```

Print 20 + 10

Print 20 - 10

Print 20 \* 10

Print 20 / 10

LB

' B

$$! \mathfrak{D} \ddot{\mathfrak{I}} \quad \grave{\mathfrak{a}} \mathfrak{j} \pm \acute{\mathfrak{a}} >$$

p $\ddot{y}$

[illegible] $\Delta f$ 

[1] yyy.yyy.yyy.o

[1]

yyypyyCompObj

[illegible]



€[1]} tf7pÿ



Mail

Delivery 12:01 PM (13 minutes

Subsyste ago)

m

Address not found Your message wasn't delivered to tahitaditshingombe@gmail.com because the address couldn't be found, or is unable to receive mail. [LEARN MORE](#)



Mail

Delivery 12:01 PM (13 minutes

Subsyste ago)

m

Address not found Your message wasn't delivered to tshigombekb@gmail.com because the address couldn't be found, or is unable to receive mail. [LEARN MORE](#) The res



**tshingombe fiston**  
<tshingombefiston@gmail.com>

12:02 PM (13 minutes  
ago)

to **tshigombekb, tshingombe, tahitaditshingombe,**  
**TSHINGOMBEKB,** me

VERSION 5.00

Begin {C62A69F0-16DC-11CE-9E98-00AA00574A4F} UserForm3

```
Caption           = "UserForm3"
ClientHeight      = 6210
ClientLeft        = 45
ClientTop         = 375
ClientWidth       = 15855
OLEObjectBlob     = "UserForm3 document walet.frx":0000
StartupPosition  = 3 'Windows Default
WhatsThisButton   = -1 'True
WhatsThisHelp     = -1 'True
```

End

```
Attribute VB_Name = "UserForm3"
Attribute VB_GlobalNameSpace = False
Attribute VB_Creatable = False
Attribute VB_PredeclaredId = True
Attribute VB_Exposed = False
Private Sub UserFor()
```

End Sub

```
A = "Tom"
b = "likes"
C = "to"
D = "eat"
E = "burger"
```

Attribute VB\_Creatable = False

```
End Sub
Private Sub Form_Activate()
Print 20 + 10
Print 20 - 10
Print 20 * 10
Print 20 / 10
LB
'B
!Dİ à;±á>
```

Àf

[1]

,

On Mon, Sep 25, 2023 at 11:58 AM tshingombe fiston <[tshingombefiston@gmail.com](mailto:tshingombefiston@gmail.com)> wrote:  
LB B9!ĐĬ àĭ±á>

[illegible]

b

(Š  
€  
€

ÿÿÿÿði\*ÆÜÎ ž~ªWJOMicrosoft Forms 2.0 FormEmbedded Object

Forms.Form.1ô9²q

On Mon, Sep 25, 2023 at 11:57 AM tshingombe fiston <[tshingombefiston@gmail.com](mailto:tshingombefiston@gmail.com)> wrote:  
VERSION 5.00

```
Begin {C62A69F0-16DC-11CE-9E98-00AA00574A4F} UserForm1
    Caption           = "UserForm1"
    ClientHeight      = 8085
    ClientLeft        = 45
    ClientTop         = 375
    ClientWidth       = 16815
    OleObjectBlob     = "UserForm document office.frx":0000
    StartUpPosition   = 3  'Windows Default
    WhatsThisButton   = -1  'True
    WhatsThisHelp     = -1  'True
End
Attribute VB_Name = "UserForm1"
Attribute VB_GlobalNameSpace = False
Attribute VB_Creatable = False
Attribute VB_PredeclaredId = True
Attribute VB_Exposed = False
Private Sub ComboBox1_Change()

End Sub

Private Sub CommandButton1_Click()

End Sub

Private Sub CommandButton2_Click()

End Sub

Private Sub Frame1_Click()

End Sub

Private Sub UserForm_Click()

End Sub

Private Sub UserForm_DblClick(ByVal Cancel As MSForms.ReturnBoolean)

End Sub

Private Sub UserForm_Error(ByVal Number As Integer, ByVal Description As
MSForms.ReturnString, ByVal SCode As Long, ByVal Source As String, ByVal HelpFile As
String, ByVal HelpContext As Long, ByVal CancelDisplay As MSForms.ReturnBoolean)

End Sub

Private Sub UserForm_KeyUp(ByVal KeyCode As MSForms.ReturnInteger, ByVal Shift As
Integer)

End Sub

Private Sub UserForm_MouseUp(ByVal Button As Integer, ByVal Shift As Integer, ByVal X
As Single, ByVal Y As Single)

End Sub

Private Sub UserForm_RemoveControl(ByVal Control As MSForms.Control)
```

```

End Sub

Private Sub UserForm_Resize()

End Sub

Private Sub UserForm_Scroll(ByVal ActionX As MSForms.fmScrollAction, ByVal ActionY As
MSForms.fmScrollAction, ByVal RequestDx As Single, ByVal RequestDy As Single, ByVal
ActualDx As MSForms.ReturnSingle, ByVal ActualDy As MSForms.ReturnSingle)

End Sub

Private Sub UserForm_Terminate()

End Sub

Private Sub UserForm_Zoom(Percent As Integer)
Private Sub cmd_bgColor_Click()
    Dim r, g, b As Integer
    r = Int(Rnd() * 256)
    g = Int(Rnd() * 256)
    b = Int(Rnd() * 256)
    MyForm.BackColor = RGB(r, g, b)
End Sub

Private Sub Cmd_fgColor_Click()
    Dim r, g, b As Integer
    r = Int(Rnd() * 256)
    g = Int(Rnd() * 256)
    b = Int(Rnd() * 256)
    Lbl_Msg.ForeColor = RGB(r, g, b)
End Sub

```

...

[Message clipped] [View entire message](#)



Mail

Delivery 12:02 PM (12 minutes  
Subsyste ago)

m

Address not found Your message wasn't delivered to tahitaditshingombe@gmail.com because the address couldn't be found, or is unable to receive mail. [LEARN MORE](#)



Mail

Delivery 12:02 PM (12 minutes  
Subsyste ago)

m

Address not found Your message wasn't delivered to tshigombekb@gmail.com because the address couldn't be found, or is unable to receive mail. [LEARN MORE](#) The res



**tshingombe fiston**

12:03 PM (11 minutes  
ago)

<tshingombefiston@gmail.com>

to **tshigombekb, tshingombe, tahitaditshingombe,**  
**TSHINGOMBEKB,** me

```
VERSION 5.00
Begin {C62A69F0-16DC-11CE-9E98-00AA00574A4F} UserForm4
    Caption       = "UserForm4"
    ClientHeight  = 7125
    ClientLeft    = 45
    ClientTop     = 375
    ClientWidth   = 13845
    OleObjectBlob = "UserForm4 document walet.frx":0000
    StartUpPosition = 1 'CenterOwner
End
Attribute VB_Name = "UserForm4"
Attribute VB_GlobalNameSpace = False
Attribute VB_Creatable = False
Attribute VB_PredeclaredId = True
Attribute VB_Exposed = False
Private Sub ComboBox1_Change()

End Sub

Private Sub ComboBox2_Change()

End Sub

Private Sub ComboBox3_Change()

End Sub

Private Sub CommandButton1_Click()

End Sub

Private Sub Label1_Click()

End Sub

Private Sub Label2_Click()

End Sub

Private Sub Label3_Click()

End Sub

Private Sub UserForm_Click()

End Sub

Private Sub UserForm_DblClick(ByVal Cancel As MSForms.ReturnBoolean)

End Sub

Private Sub UserForm_Error(ByVal Number As Integer, ByVal Description As
MSForms.ReturnString, ByVal SCode As Long, ByVal Source As String, ByVal HelpFile As
```





Mail 12:04 PM (11 minutes  
Delivery ago)  
Subsys

m

Address not found Your message wasn't delivered to tshigombekb@gmail.com because the address couldn't be found, or is unable to receive mail. [LEARN MORE](#) 550 5.1



Mail

Delivery 12:04 PM (11 minutes

ago)

m

Address not found Your message wasn't delivered to tahitaditshingombe@gmail.com because the address couldn't be found, or is unable to receive mail. [LEARN MORE](#)



**tshingombe fiston**  
<tshingombefiston@gmail.com>

12:09 PM (5 minutes  
ago)

to **tshigombekb**, **tshingombe**, **tahitaditshingombe**,  
**TSHINGOMBEKB**, me

VERSION 5.00

Begin {C62A69F0-16DC-11CE-9E98-00AA00574A4F} UserForm5

```
Caption           = "UserForm5"
ClientHeight      = 6690
ClientLeft        = 45
ClientTop         = 375
ClientWidth       = 16170
OleObjectBlob     = "UserForm5 fortotfolio walet.frx":0000
StartUpPosition   = 1 'CenterOwner
WhatsThisButton   = -1 'True
WhatsThisHelp     = -1 'True
```

End

```
Attribute VB_Name = "UserForm5"
Attribute VB_GlobalNameSpace = False
Attribute VB_Creatable = False
Attribute VB_PredeclaredId = True
Attribute VB_Exposed = False
```

```
Private Sub ComboBox1_Change()
```

```
End Sub
```

```
Private Sub CommandButton1_Click()
```

```
End Sub
```

```
Private Sub CommandButton2_Click()
```

```
End Sub
```

```
Private Sub Frame1_Click()
```

```
End Sub
```

```
Private Sub ScrollBar1_Change()
```

```
End Sub
```

```

Private Sub ScrollBar2_Change()
End Sub

Private Sub UserForm_Click()
End Sub

Private Sub UserForm_DblClick(ByVal Cancel As MSForms.ReturnBoolean)
End Sub

Private Sub UserForm_Error(ByVal Number As Integer, ByVal Description As
MSForms.ReturnString, ByVal SCode As Long, ByVal Source As String, ByVal HelpFile As
String, ByVal HelpContext As Long, ByVal CancelDisplay As MSForms.ReturnBoolean)
End Sub

Private Sub UserForm_KeyPress(ByVal KeyAscii As MSForms.ReturnInteger)
End Sub

Private Sub UserForm_MouseUp(ByVal Button As Integer, ByVal Shift As Integer, ByVal X
As Single, ByVal Y As Single)
End Sub

Private Sub UserForm_QueryClose(Cancel As Integer, CloseMode As Integer)
End Sub

Private Sub UserForm_RemoveControl(ByVal Control As MSForms.Control)
End Sub

Private Sub UserForm_Resize()
End Sub

Private Sub UserForm_Scroll(ByVal ActionX As MSForms.fmScrollAction, ByVal ActionY As
MSForms.fmScrollAction, ByVal RequestDx As Single, ByVal RequestDy As Single, ByVal
ActualDx As MSForms.ReturnSingle, ByVal ActualDy As MSForms.ReturnSingle)
End Sub

Private Sub UserForm_Terminate()
End Sub

Private Sub UserForm_Zoom(Percent As Integer)
End Sub
LB

```

---

„?ÆĐĬ à;±á>

pÿ

pÿÿÿ

```
pCompObj [1] yyy yyy yyy yyy  
n  
[1] p y y y
```

[illegible]

€

Microsoft Forms 2.0 FrameEmbedded Object  
Forms.Frame.1092q

€

Rã  
' Î ãªK,Q DB Tahoma †t,ã  
€

O

[illegible]
$$[1]_u \in \mathbb{Y}[1]$$

Tahoma[1] AE€H€,

---

[1]œø[1]iG4

VB6 Made Easy Book

Check Out Our Book

---

VB6 Made Easy Paperback

<br />

VB6 Made Easy Kindle

VB6 Google Book

Available on Google Play Store

---

## Lesson 2 : Building VB Applications

---

### 2.1 Creating Your First Application

First of all, launch Microsoft Visual Basic 6 compiler that you have installed earlier. In the New Project Dialog , choose Standard EXE to enter Visual Basic 6 integrated development environment. In the VB6 IDE, a default form with the name Form1 will appear. Next, double click on Form1 to bring up the source code window for Form1, as shown in Figure 2.1.

The top of the source code window consists of a list of objects and their associated events or procedures. In the source code window, the object displayed is Form1 and the associated procedure is Load.

Figure 2.1 The VB6 Source Code Window

When you click on the object box, the drop-down list will display a list of objects you have inserted into your form, as shown in figure 2.2. Here, you can see a form with the name Form1, a command button with the name Command1, a Label with the name Label1 and a Picture Box with the name Picture1.

Figure 2.2: List of Objects Similarly, when you click on the procedure box, a list of procedures associated with the object will be displayed , as shown in Figure 2.3. Some of the procedures associated with the object Form1 are Activate, Click, DblClick (which means Double-Click) , DragDrop, keyPress and more. Each object has its own set



of procedures. You can always select an object and write codes for any of its procedure in order to perform certain tasks.

#### Figure 2.3 List of Procedures

You do not have to worry about the beginning and the end statements (i.e. Private Sub Form\_Load.....End Sub.); Just key in the lines in between the above two statements exactly as are shown here. When you press F5 to run the program, you will be surprised that nothing showed up .In order to display the output of the program, you have to add the Form1.show statement like in Example 2.1.1 or you can just use Form\_Activate ( ) event procedure as shown in example 2.1.2. The command Print does not mean printing using a printer but it means displaying the output on the computer screen. Now, press F5 or click on the run button to run the program and you will get the output as shown in Figure 2.4.

You can also perform arithmetic calculations as shown in Example 2.1.2. VB uses \* to denote the multiplication operator and / to denote the division operator. The output is shown in Figure 2.5, where the results are arranged vertically.

#### Example 2.1.1

```
Private Sub Form_Load ( )  
  
Form1.show  
  
Print "Welcome to Visual Basic tutorial"  
  
End Sub
```

#### Example 2.1.2

```
Private Sub Form_Activate ( )  
  
Print 20 + 10  
  
Print 20 - 10  
  
Print 20 * 10  
  
Print 20 / 10  
  
End Sub
```

Figure 2.4 : The output of Example 2.1.1

Figure 2.4 : The output of Example 2.1.2

You can also use the + or the & operator to join two or more texts (string) together like in example 2.1.4 (a) and (b)

#### Example 2.1.4(a)

```
Private Sub  
  
A = "Tom"  
  
B = "likes"  
  
C = "to"  
  
D = "eat"
```

```
E = "burger"

Print A + B + C + D + E

End Sub
```

Example 2.1.4(b)

```
Private Sub

A = "Tom"

B = "likes"

C = "to"

D = "eat"

E = "burger"

Print A & B & C & D & E

End Sub
```

The Output of Example 2.1.4(a) &(b) is as shown in Figure 2.7.

Figure 2.7

## 2.2 Steps in Building a Visual Basic Application

Step 1: Design the interface by adding controls to the form and set their properties

Step 2: Write code for the event procedures

### Example 2.2 Changing Background and Foreground Color at Random

In this example, we want to show you how to write code to change the background and the foreground color randomly. We will place two command buttons and a label on the form. One of the command buttons will be used to change the background color while the other one will be used to change the foreground color. The Label is for displaying the foreground color. There are two events here, change background color and change foreground color. Therefore, we need to write code for the two event procedures.

To make the program more interesting, we will use the Rnd() function, the Int() function and the RGB codes to change the color randomly. The Rnd() function creates a random number between 0 and 1 and the RGB code uses a combination of three integers to form a certain color. The Int() is a function that converts a number into an integer by truncating its decimal part and the resulting integer is the largest integer that is smaller than the number. For example, Int(0.2)=0, Int(2.4)=2, Int(4.8)=4. Therefore, Int(Rnd()\*256) returns the smallest integer 0 and the biggest integer 255. The format of RGB code is RGB(a,b,c), where a, b, c range from 0 to 255. For example, RGB(255,0,0) is red, RGB(255,255,255) is white and (0,0,0) is black. Do not worry about the jargons, you will learn them in later lesson.

Now, rename the controls as follows:

```
"    Form1-MyForm

"    Label1-LblMessage
```

```
" Command1-cmd_bgColor
```

```
" Command2-cmd_fgColor
```

Next, change the caption of the Label to "Please Change My Color". In addition, change the caption of Command1 button to "Change Background Color" and change the caption of Command2 button to "Change Foreground Color"

Now, enter the following code

```
Private Sub cmd_bgColor_Click()
```

```
    Dim r, g, b As Integer
```

```
    r = Int(Rnd() * 256)
```

```
    g = Int(Rnd() * 256)
```

```
    b = Int(Rnd() * 256)
```

```
    MyForm.BackColor = RGB(r, g, b)
```

```
End Sub
```

```
Private Sub Cmd_fgColor_Click()
```

```
    Dim r, g, b As Integer
```

```
    r = Int(Rnd() * 256)
```

```
    g = Int(Rnd() * 256)
```

```
    b = Int(Rnd() * 256)
```

```
    Lbl_Msg.ForeColor = RGB(r, g, b)
```

```
End Sub
```

When you run the program, each time you press on the 'Change Background Color' button, you will see different background color. Similarly, each time you press on the 'Change Foreground Color', you will see the message on the Label changes color. The output is shown in Figure 2.8.

Figure 2.8

118

13

49

55

Last update:09/05/2023 02:40:29

## J276 NEA Resource Bank

- " Key Syntax
- " Program Examples
- " Evidencing
- " Algorithms
- " Testing
- " Debugging
- " Rules

### Program Examples

#### Inputting & Outputting Data

If you want to display something on screen in Visual Basic you can do it in a number of ways. The most common ways you will use are by Message Box or List Box.

To input data in Visual Basic there are lots of different form controls that you can use to do this, the most common ones are text boxes and combo boxes.

#### Inputting - Creating an Interface

Visual Basic have two main parts to it. The first part is creating the user interface, this is a simply drag and drop environment where you can add different form controls such as a text box.

The second part to it is creating the code to make the user interface do/display something.

When creating an interface, there are different types of form controls. Some of those that you will use are:

- " Label - used to display text on an interface
- " Text Box - used to allow the user to type in some text
- " Combo Box - used to give a set of options to the user
- " List Box - used to provide a list of options to choose from or display a list of information that has been calculated in the program.
- " Button - these are often used so when the user clicks on them something happens.

In Visual Studio on the left hand side you have the toolbox, this is where you can drag and drop your form controls. It looks like this:

When you have dragged your form controls onto your form, you need to name them. You should add a prefix to any form control, the common ones are:

```
"    Labels - lbl
"    Text Boxes - txt
"    Combo Boxes - cmb
"    List Boxes - lst
"    Buttons - btn
```

If you had a text box where the user enters their name a suitable name would be txtName.

Difference between naming a control and changing the text You must always name controls, this can be done in the properties next to the option name, as shown below:

If you want to change what the form control says on it, you change the option text, as shown below:

#### Outputting Data - Message Boxes

Below is an interface where the user will enter a word. When they enter the word in the text box called txtWord and press the button called btnRun it will display a message box that says what word they entered.

Interface

Code when btnRun clicked

```
MessageBox.Show("You entered the word " & txtWord.Text)
```

This is what happens when the button is clicked:

The text You entered the word is joined with the text box txtWord. As the user entered the word Hello it takes what it is in the text box and adds it into the message box.

#### Example program 1 - Birthday Program

The code for the program below will allow the user to enter their name, select the day of the week that their birthday falls on this year and then choose the month of their birthday from the list box. When they click the button it should display all the information back to them.

Interface

Code when btnBirthday clicked

```
MessageBox.Show("Hello " & txtName.Text & vbNewLine & "Your birthday month is " &
lstMonth.Text &
```

```
" and the day of the birthday this year is " & cmbDay.Text)
```

This is what happens when the button is clicked:

#### Example program 2 - Address Program

The code for the program below will allow the user to enter various pieces of information. It will then use the information in these form controls to create a message box with all their information in.

Interface

Code when btnDisplay clicked

```
MessageBox.Show("Address Details" & vbNewLine & "Street: " & txtNumber.Text & " " &  
txtStreet.Text & vbNewLine & "Town/City: " & txtTown.Text & vbNewLine &  
"County: " & txtCounty.Text & vbNewLine & "Postcode: " & txtPostcode.Text)
```

This is what happens when the button is clicked:

You can concatenate (join together) controls with strings in a `MessageBox.Show()` command. In the address example `MessageBox.Show("Street: " & txtnumber.Text & " " & txtStreet.Text & vbNewLine & "Town/City: " + txtTown.Text)` will combine the strings `Street` and `Town/City` with the form controls `txtNumber`, `txtStreet` and `txtTown`.

`vbNewLine` is used to start a new line when it is displayed on screen.

#### Outputting Data - List Boxes

One of the other methods of outputting data is through a list box.

To add data to a list box you need to use the following code:

```
Listboxname.Items.Add(Data to add to list box)
```

Consider the following interface:

To add the name entered and the email address entered to the list box when the button is clicked you need the following code:

Code when btnAdd clicked

```
lstOutput.Items.Add(txtName.Text & vbTab & txtEmail.Text)
```

This is what happens when the button is clicked:

You can add multiple rows of data to a list box. You can simply change the information in the text boxes and click the button again. `vbTab` is used to put a tab space between the two pieces of data.

Sometimes when you use list boxes it makes it difficult to make the formatting look

neat, this is shown in the screenshot above where the data is not lined up. To overcome this problem you can use a list view.

With a list view box you can add columns and headings to make it look like a table, like the example shown below:

When you add a list view control, you have to change a property to get it to work. Change the view from Large Icon to Details, like shown below:

The code for when the button is clicked needs to follow the following format:

```
LISTVIEWBOXNAME.Items.Add(New ListViewItem({COLUMN1, COLUMN2, COLUMN3, COLUMN4, COLUMN5}))
```

For this example, the code would be:

```
lstOutput.Items.Add(New ListViewItem({txtName.Text, txtEmail.Text}))
```

This is because there are only two pieces of information, therefore you only need to fill in the information you want in two of the columns.

As well as adding code for when the button is pressed, you also need to add the column headings when the form loads. You should double click on the form itself and add the code in this subroutine. The format of the code for the column headings is:

```
LISTVIEWBOXNAME.Columns.Add( Text , Size , Alignment)
```

In this example as there are two headings the code would be:

```
Private Sub Form1_Load(sender As System.Object, e As System.EventArgs) Handles MyBase.Load
```

```
    lstOutput.Columns.Add("Name", 150, HorizontalAlignment.Left)
```

```
    lstOutput.Columns.Add("Email", 250, HorizontalAlignment.Left)
```

```
End Sub
```

### Example 3 - Test Scores - Using List View

The code for the program below will allow the user to enter a name and three test scores. When btnAdd is clicked it will add the information to the list box.

Interface

```
Private Sub btnAdd_Click(sender As System.Object, e As System.EventArgs) Handles btnAdd.Click
```

```
    lstOutput.Items.Add(New ListViewItem({txtName.Text, txtScore1.Text, txtScore2.Text, txtScore3.Text}))
```

```
End Sub
```

```
Private Sub Form1_Load(sender As System.Object, e As System.EventArgs) Handles MyBase.Load
```

```

lstOutput.Columns.Add("Name", 150, HorizontalAlignment.Left)
lstOutput.Columns.Add("Score 1", 75, HorizontalAlignment.Center)
lstOutput.Columns.Add("Score 2", 75, HorizontalAlignment.Center)
lstOutput.Columns.Add("Score 3", 75, HorizontalAlignment.Center)

```

End Sub

This is what happens when the button is clicked:

## Variables

A variable is used to temporarily store a piece of data.

For example:

```
Dim number1 As Integer = 10
```

In the code above the variable is called number1 and the value it is storing is 10. Variables can hold any type of data. Using variables makes it easier for people to understand what is going on. In Visual Basic you need to define a variable before you can use it. To do this you type Dim before the variable name the first time you use it. You should then say what type of data you think it is. In this example number1 is an integer therefore the code to define a variable called number1 as an integer is Dim number1 as Integer

For example:

```
Dim cost As Decimal = 15.5
```

```
Dim VAT As Decimal = 3.1
```

```
Dim total_cost As Decimal = cost + VAT
```

## Example program 1 - Water Tank Capacity Program

The code for the program below will allow the user to enter the height, width and depth of a water tank, then calculate and output the capacity.

## Interface

Code when btnCapacity is clicked

```
'three variables that store the text box inputs from the interface as a decimal
```

```
Dim height As Decimal = txtHeight.Text
```

```
Dim width As Decimal = txtWidth.Text
```

```
Dim depth As Decimal = txtDepth.Text
```

```
'calculation to work out the capacity
```

```
Dim capacity As Decimal = (height * width * depth) / 1000
```



'outputs the capacity of the water tank

```
MessageBox.Show("The tank holds " & Decimal.Round(capacity, 2).ToString & " litres of water")
```

This is what happens when the button is clicked:

The code above rounds the variable capacity, to round a variable you use the `Decimal.Round()` function. You write the name of the variable followed by the number of decimal places e.g. `Decimal.Round(capacity,2)`. Also note that it has `.ToString` after it, this is because any variable that is not a string data type must be converted back to a string before it can be displayed in a message or list box.

Example program 2 - Cylinder Volume Program

The code for the program below will allow the radius and height of a circle, then calculate and output the volume and surface area.

Interface

Code when `btnCalculate` is clicked

'three variables that store the two inputs from the interface and the value of pie

```
Dim radius As Decimal = txtRadius.Text
```

```
Dim height As Decimal = txtHeight.Text
```

```
Dim pie As Decimal = 3.14159
```

'calculations to work out the volume and surface area

```
Dim volume As Decimal = pie * (radius * radius) * height
```

```
Dim surfaceArea As Decimal= 2 * (pie * (radius * radius)) + 2 * (pie * radius * height)
```

#outputs the volume and surface area of the cylinder in a message box.

```
MessageBox.Show("The volume of your cylinder is: " & Decimal.Round(volume, 2).ToString & " to 2 decimal places" & vbCrLf & "The surface area of the cylinder is: " & Decimal.Round(surfaceArea, 2).ToString & " to 2 decimal places.")
```

This is what happens when the button is clicked:

Selection (if, then, else)

Sometimes you will change what you do depending on the conditions.

For example: IF you wake up in the morning and it is raining THEN you will take a coat to school OTHERWISE you won't.

IF the day is a Saturday AND the alarm clock goes off THEN you might turn it off and stay in bed OTHERWISE you might get up.

Life is full of decisions that you will make depending on certain conditions, computers are no different.

if-else

For a computer to make decisions based on a condition, you must use an IF statement, it has the following structure:

If condition Then

```
    true
    several instructions that are executed
    if the calculation evaluates to True
```

Else

```
    false
    several instructions that are executed
    if the condition evaluates to False
```

End If

Consider the following IF statement:

```
Dim age As Integer = txtAge.Text
```

```
If age >= 18 Then
```

```
    MessageBox.Show("You are an adult")
```

```
Else
```

```
    MessageBox.Show("You are still a child")
```

```
End If
```

The IF statement explained:

" after the if is the condition age >= 18, this is checking to see if the age variable is more than or equal to 18.

" after that line is code is the code that will only be run if that condition is True. If it is true it will display a message box that says You are an adult.

" the word else then follows. The instructions underneath this are what will be run only if that condition is False. If it is false it will display a message box that says You are still a child.

if-elseif-else

An IF statement with an else will only allow you to check a single condition, however if you have more than one condition to check you can use if..elseif..else

Consider the following IF statement:

```
Dim colour As String = cmbColour.Text
```

```
If colour = "Red" Then
    MessageBox.Show("STOP")
Elseif colour = "Amber" Then
    MessageBox.Show("GET READY TO STOP")
Else
    MessageBox.Show("GO")
End If
```

The IF statement explained:

" the program first checks to see if the colour selected in the combo box on the interface is Red and if it is will display a message box saying STOP.

" if the colour selected isn't red it will go onto the next condition where the Elseif is and check if the colour is Amber. If it is then it will display a message box saying GET READY TO STOP

" if neither conditions are met it will go to  
...

[Message clipped] [View entire message](#)



**Mail Delivery  
Subsystem**

12:10 PM (5 minutes  
ago)

to  
me

### **Address not found**

Your message wasn't delivered to **tshigombekb@gmail.com** because the address couldn't be found, or is unable to receive mail.

**[LEARN MORE](#)**

The response from the remote server was:

550 5.1.1 The email account that you tried to reach does not exist. Please try double-checking the recipient's email address for typos or unnecessary spaces. Learn more at <https://support.google.com/mail/?p=NoSuchUser> w21-20020a05651c103500b002b6e3d38d98si3580873ljm.123 - gsmtip



**Mail Delivery  
Subsystem**

12:10 PM (5 minutes  
ago)

to  
me

**Address not  
found**

Your m